

CLAIM AMENDMENTS

Please amend the claims as follows:

Claims 1-47 (cancelled)

48. (currently amended) A method of imaging a substrate, comprising:
- a) exposing said substrate to an influx of photons, said photons having an energy selected to cause photoelectrons to leave said substrate,
 - b) exposing said substrate to an influx of low-energy electrons, said electrons having a sufficiently low energy so that a substantial portion of said electrons are reflected from a surface of said substrate and both an energy and a current density profile selected to maintain surface charge present on said substrate at a predetermined level,
 - b1) filtering the flux of photoelectrons and electrons reflected from the surface of said substrate in order to select said reflected electrons, or a portion of said reflected electrons, and to reject most or all of said photoelectrons,
 - c) focusing the portion of said influx of electrons which are reflected from said substrate to create an image of said substrate in a plane of a detector, and
 - d) detecting the portion of said influx of electrons which are reflected from said substrate, thereby imaging a portion of said substrate.
49. (original) The method of Claim 48, wherein said substrate is concurrently exposed to said influx of photons and said influx of electrons.
50. (original) The method of Claim 48, wherein said substrate is alternately exposed to said influx of photons and said influx of electrons.
51. (original) The method of Claim 48, wherein said substrate is exposed to said influx of photons over a first area, said substrate is exposed to said influx of electrons over a second area, and said first area is substantially contained within said second area.
52. (cancelled)

53. (currently amended) The method of ~~Claim 52~~ Claim 48, wherein said filtering is achieved by selecting said photoelectrons based on their angular distribution from said surface of said substrate.
54. (previously presented) The method of Claim 53, wherein said filtering rejects most or all reflected electrons which are reflected at or near a specular angle and selects most or all reflected electrons which are scattered away from the specular angle.
55. (previously presented) A method of imaging a substrate, comprising:
- a) exposing said substrate to an influx of photons, said photons having an energy selected to cause photoelectrons to leave said substrate,
 - b) exposing said substrate to an influx of low-energy electrons, said electrons having a sufficiently low energy so that a substantial portion of said electrons are reflected from a surface of said substrate and both an energy and a current density profile selected to maintain surface charge present on said substrate at a predetermined level,
 - c) focusing the portion of said influx of electrons which are reflected from said substrate to create an image of said substrate in a plane of a detector,
 - d) focusing said photoelectrons in the plane of a detector, and
 - e) detecting said photoelectrons and reflected electrons, thereby imaging a portion of said substrate.
56. (original) The method of Claim 55, further comprising:
- a) filtering said reflected and said photoelectrons to reject most or all of said reflected electrons which are reflected at or near the specular angle and most or all of said photoelectrons which are emitted perpendicular to the surface of the substrate, and to select most or all of said reflected electrons which are scattered away from the specular angle and/or most or all of said photoelectrons which are emitted at angles other than perpendicular to the surface of the substrate.

Claims 58-60 (cancelled).

61. (previously presented) A method of imaging a substrate, comprising:

- a) exposing said substrate to an influx of relatively high-energy electrons, said high-energy electrons having an energy selected to cause secondary electrons to leave said substrate,
 - b) exposing said substrate to an influx of relatively low-energy electrons, said electrons having a sufficiently low energy so that a substantial portion of said electrons are reflected from a surface of said substrate and both an energy and a current density profile selected to maintain surface charge present on said substrate at a predetermined level,
 - c) filtering the flux of said secondary electrons and said low-energy electrons reflected from the surface of said substrate in order to select most or all of said secondary electrons, or a portion of said secondary electrons, and to reject most or all of said reflected electrons,
 - d) focusing said secondary electrons to create an image of said substrate in a plane of a detector, and
 - e) detecting said secondary electrons, thereby imaging a portion of said substrate.
62. (original) The method of Claim 61, wherein said filtering is achieved by selecting said secondary electrons, or a portion of said secondary electrons, based on their angular distribution from the surface of said substrate.

Claims 63-65 (cancelled).

66. (previously presented) A method of imaging a substrate, comprising:
- a) exposing said substrate to an influx of relatively high-energy electrons, said high-energy electrons having an energy selected to cause secondary electrons to leave said substrate,
 - b) exposing said substrate to an influx of relatively low-energy electrons, said electrons having a sufficiently low energy so that a substantial portion of said electrons are reflected from a surface of said substrate and both an energy and a current density profile selected to maintain surface charge present on said substrate at a predetermined level,
 - c) filtering the flux of said secondary electrons and said low-energy electrons reflected from the surface of said substrate in order to select most or all of said reflected low-

- energy electrons, or a portion of said reflected low-energy electrons, and to reject most or all of said secondary electrons,
- d) focusing said reflected low-energy electrons create an image of said substrate in a plane of a detector, and
 - e) detecting said reflected low-energy electrons, thereby imaging a portion of said substrate.
67. (original) The method of Claim 66, wherein said filtering is achieved by selecting said reflected low-energy electrons, or a portion of said reflected low-energy electrons, based on their angular distribution from the surface of said substrate.
68. (previously presented) The method of Claim 66, wherein said filtering rejects most or all of said reflected low-energy electrons which are reflected at or near a specular angle and selects most or all of said reflected low-energy electrons which are scattered away from the specular angle.
69. (previously presented) A method of imaging a substrate, comprising:
- a) exposing said substrate to an influx of relatively high-energy electrons, said high-energy electrons having an energy selected to cause secondary electrons to leave said substrate,
 - b) exposing said substrate to an influx of relatively low-energy electrons, said electrons having a sufficiently low energy so that a substantial portion of said electrons are reflected from a surface of said substrate and both an energy and a current density profile selected to maintain surface charge present on said substrate at a predetermined level,
 - c) filtering said secondary electrons and the portion of said relatively low-energy electrons which are reflected from the surface of said substrate, in order to select most or all of said secondary electrons which are emitted at angles other than perpendicular to the substrate and most or all of said reflected electrons which are scattered away from the specular angle, and to reject most or all of said secondary electrons which are emitted at an angle perpendicular to the substrate and most or all of said reflected electrons which are scattered at the specular angle,

- d) focusing said selected secondary electrons and said selected reflected electrons to create an image of said substrate in the a plane of a detector, and
- e) detecting said selected secondary electrons and selected reflected electrons, thereby imaging a portion of said substrate.